

oneM2M Tutorial

Date: Nov 14, 2019

Time: 9:00 - 17:00

Place: EPS Auditorium

The [oneM2M](#) Tutorial will present the IoT vision, challenges, and efforts achieved by the standardization bodies to design a globally agreed IoT service platform. The [oneM2M standard](#) will be introduced as a promising solution for IoT cross-domain interoperability. The participants will follow practical sessions to learn how to quickly integrate heterogeneous IoT devices and develop IoT applications based on the open-source project [Eclipse OM2M](#).

Target audience

The audience targeted by this tutorial includes software architects and developers as well as academic and industrial researchers, and students who can benefit from the different parts of the tutorial including the theoretical as well as the technical aspects related to IoT standards.

oneM2M standard

Today, sensors, actuators, tags, vehicles, and intelligent things all have the ability to communicate. The number of IoT devices is continuously increasing, and it has been predicted to see billions of connected objects interconnected in the near future. IoT applications provide advantages in various domains from smart cities, factories of the future, connected cars, home automation, e-health to precision agriculture. This fast-growing ecosystem is leading IoT towards a promising future. However, IoT market expansion opportunities are not straightforward. A set of challenges should be overcome to enable IoT mass-scale deployment across various industries including interoperability, complexity, and scalability issues.

Currently, the IoT market is suffering from vertical fragmentation affecting the majority of business sectors. In fact, various vendor-specific IoT solutions have been designed independently for specific applications, which has led to serious interoperability issues. To address this challenge, eight of the most important telecom standardisation organisations in the world established a global partnership project called oneM2M. oneM2M provides a common architecture for IoT cross-domain interoperability in terms of communication and semantic data.

Eclipse OM2M open-source project

Eclipse OM2M offers a fully open source implementation of the oneM2M standard. It supports all types of interfaces and nodes defined in the standard including "Infrastructure Node", "Middle Node", "Application Service Node" and "Application Dedicated Node". Each node may host a set of applications and a Common Service Entity including capabilities for communication protocol bindings, device interworking, management, security, etc. Eclipse OM2M relies on a modular architecture, designed on top of a protocol-independent kernel, running on top of an OSGi layer and is highly extensible via plugins which make a promising candidate for integration and experimentation.

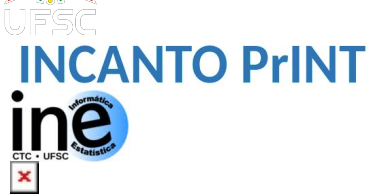
Registration

Before registering, bear in mind that *basic programming skills* are needed for this tutorial, as well as a *laptop computer with basic software development tools*. The tutorial will be held in English only and attendance is limited to **100 people**. You can register for the tutorial [here](#).

Program

9:00 **Opening**
9:15 **oneM2M Standard**
9:30 **oneM2M Common Architecture for IoT**
10:30 *Coffee Break*
11:00 **Eclipse OM2M, Open Source oneM2M-based Platform**
12:00 *Lunch Break*
13:00 *Demonstration: **How to Quickly Develop your IoT Application with oneM2M***
14:00 **Interworking with legacy and vendor-specific technologies**
15:00 *Coffee Break*
15:30 *Hands-on: **Building a Small Project with HW or SW using oneM2M***
16:45 **Closing**

Support



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